Docket No.: 210377US0

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF:

Atsushi SUZUKI, et al. : EXAMINER: UNDERDAHL, T. E.

SERIAL NO: 09/922,694 :

FILED: AUGUST 7, 2001 : GROUP ART UNIT: 1651

FOR: COMPOSITIONS AND METHODS FOR ALLEVIATING HYPERTENSION OR PREVENTING A RISE IN BLOOD PRESSURE

APPEAL BRIEF

COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

SIR:

This is an appeal of Claims 40-45, 53-55, and 69-70 in the above-identified application and the rejections set forth in the Official Action mailed June 1, 2007 and maintained in the Advisory Action mailed January 25, 2008.

I. Real Party of Interest

The real party of interest is Kao Corporation, by virtue of the assignment recorded in the U.S. Patent and Trademark Office on August 7, 2001, at reel 012538, frames 0229-0232.

II. Related Appeals and Interferences

Appellants, Appellants' legal representative and their assignee are not aware of any appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in this appeal.

III. Status of Claims

Claims 40-45, 53-55, and 69-70 are the only claims pending in the above-identified application and appear in the attached Claims Appendix. All other claims, whether original or added during prosecution, were canceled during prosecution of this application.

Claims 40-45, 53-55, and 69-70 stand rejected.

Claims 40-45, 53-55, and 69-70 are appealed herein.

IV. Status of Amendments filed under 37 C.F.R. §1.116

An Amendment under 37 C.F.R. §1.116 was filed on October 1, 2007. The Amendment under 37 C.F.R. §1.116, filed October 1, 2007, was considered by the Examiner and deemed not to be persuasive to the allowance of Claims 40-45, 53-55, and 69-70. As such, an Advisory Action was issued on January 25, 2008. In the Advisory Action mailed January 25, 2008, the Examiner indicates that for purposes of appeal, the proposed amendments to the claims filed on October 1, 2007 will be entered (see paragraph 7 in the Advisory Action mailed January 25, 2008). No mention was made of any withdrawn or overcome rejections, as such, all rejections appearing in the final Office Action mailed June 1, 2007, appear to have been maintained. Accordingly, Appellants now appeal the rejections set forth in the Office Action mailed June 1, 2007, and maintained in the Advisory Action mailed on January 25, 2008. However, as explained below, with the entry of the Amendment

under 37 C.F.R. §1.116, filed October 1, 2007, there are believed to be no remaining rejections.

V. Summary of the Claimed Subject Matter

As recited in independent Claim 40, the present invention provides a composition consisting of:

(a) isolated or purified ferulic acid or an ester thereof, or a pharmaceutically acceptable salt thereof, and

(b) isolated or purified caffeic acid and/or chlorogenic acid, or pharmaceutically acceptable salts thereof, and

a suitable excipient or carrier;

wherein (a) and (b) are present in an amount sufficient to lower blood pressure or suppress a rise in blood pressure when administered to a mammal. (see the specification at page 5, lines 1-9 (generally), page 6, line 7 to page 8, line 21 (ferulic acid, esters thereof, and salts thereof), page 9, lines 3-17 (caffeic acid and cholorogenic acid and salts thereof), page 10, lines 4-15 (carriers)).

As set forth in Claim 53, the present invention also sets forth a process for treating hypertension or high blood pressure comprising administering an effective dose of the composition defined above to a subject in need thereof, wherein said hypertension is characterized by high systolic or diastolic blood pressure, or both. (see the specification at page 5, lines 17-25, page 10, lines 16-26).

VI. Grounds of Rejection to be Reviewed on Appeal

1. Claims 46-52 and 63-65 stand rejected under 35 U.S.C. §103(a) over Abraham[1] in view of Hsu[2], Ghai et al[3], and Yokozawa et al[4].

2. Claims 46 and 50 stand rejected under 35 U.S.C. §102(b) over Abraham[5].

3. Claims 40-42, 63-65, 69, and 70 stand rejected under the doctrine of obviousness type-double patenting over Claims 1-11 of U.S. Patent No. 6,310,100 (apparently in view of Yokozawa et al[6]).

4. Claims 40-55, 63-65, 69, and 70 stand provisionally rejected under the doctrine of obviousness type-double patenting over Claims 1-6 of U.S. 11/209,672.

Note: For the reasons given below, Appellants submit that this application should pass to allowance. Specifically, Claims 46-52 and 63-65 are no longer pending thus obviating ground of rejection (1) and (2) above. A Terminal Disclaimer over U.S. Patent No. 6,310,100 was filed on October 1, 2008, thus mooting ground of rejection (3). And, U.S. 11/209,672 was officially abandoned on October 20, 2006, thus mooting ground of rejection (4). There being no outstanding rejection with the entry of the Amendment under 37 C.F.R. §1.116, filed October 1, 2007, this application should be allowed.

[1] Fd. Chem. Toxic., vol. 34(1), 15-20 (1996); XP-001148404)
[2] U.S. 5,958,417
[3] U.S. 5,955,269
[4] Phytotherapy Research, vol. 9, 105-109 (1995).
[5] Fd. Chem. Toxic., vol. 34(1), 15-20 (1996); XP-001148404)
[6] Phytotherapy Research, vol. 9, 105-109 (1995).

VII. Arguments

(A) Claims 46-52 and 63-65 stand rejected under 35 U.S.C. §103(a) as being obvious over Abraham in view of Hsu, Ghai et al, and Yokozawa et al. This rejection is untenable and should not be sustained.

Appellants note that, although they do not agree with this rejection, to expedite examination of Claims 40-45, 53-55, and 69-70, Claims 46-52 and 63-65 were canceled in the Amendment under 37 C.F.R. §1.116, filed October 1, 2007. Therefore, this rejection is moot.

Nonetheless, in the Advisory Action mailed January 25, 2008, the Examiner alleges "the examiner maintains a prima facie case of obviousness remains. Given that caffeic acid is a known active ingredient in Crataegus as supported by Hsu (Col 2, lines 55-65) and Yokazawa et al. Also since Abraham teach a composition that contains caffeic acid and ferulic acid One of ordinary skill in the art would reasonably expect that this composition would have the same anti-hypertensive effects."

It is not apparent to what this statement refers as the claims subject to the obviousness rejection were canceled in the Amendment under 37 C.F.R. §1.116, filed October 1, 2007. Further, if this allegation refers to Claims 40-45, 53-55, and 69-70, then this would be a rejection that has not previously been raised, which can only be properly raised in a new non-final office action.

To the extent that the Examiner attempts to now question the patentability of Claims 40-45, 53-55, and 69-70, Appellants submit that none of Abraham in view of Hsu, Ghai et al, and Yokozawa et al suggest the composition or methods of the present invention which consists of isolated or purified ferulic acid in combination with isolated or purified

chlorogenic and/or caffeic acid (and a carrier or excipient) in an amount sufficient to lower blood pressure or suppress a rise in blood pressure.

Abraham, Table 1, page 16, refers to oral pretreatment of Swiss albino mice with a combination of chlorogenic acid, caffeic acid, ellagic acid and ferulic acid and is concerned with the potential antioxidant, anti-genotoxic and anti-cancer properties of this composition. Unlike the claimed compositions, the composition (Code D) of Abraham also contains isolated ellagaic acid as an essential component. Abraham does not disclose a composition consisting essentially of ferulic acid and chlorogenic acid or caffeic acid which lowers blood pressure.

Hsu was cited as disclosing the functional activity of a herb, Crataegus (hawthorn), on hypertension (Fig. 1). While Hsu indicates that Crataegus contains various active principles, including ferulic, chlorogenic and caffeic acid (col. 2, lines 55-64), it does not indicate which of the many components of this herb are effective to treat hypertension, nor suggest that isolated ferulic acid in combination with isolated chlorogenic acid and/or caffeic acid would exert these effects. Thus, Hsu provides no suggestion or reasonable expectation of success for the present invention which employs isolated ferulic, chlorogenic and caffeic acids to reduce high blood pressure.

Ghai, col. 25, lines 1-3. col. 23, lines 43-50 and col. 27, lines 19-25, was cited as teaching nutraceutical compositions and fortification of foods with nutraceutical ingredients. Col. 23, lines 43-50 (Table 1) refer to various examples of food substances that may be employed as nutraceuticals. These foods include coffee, soybeans, and fruits which contain phenolic acids such caffeic acid, chlorogenic acid ferulic acid, and rosmaric acid. However, like Hsu. Ghai provides no suggestion or reasonable expectation that isolated ferulic acid in combination with isolated chlorogenic and/or isolated caffeic acid would reduce blood

pressure or suggest that these isolated acids be added to foods. Accordingly, Appellants respectfully submit that this rejection would not apply to the present claims.

Further, Appellants submit that there are additional differences between the claimed invention and the cited prior art in that (i) none of the references disclose or suggest the benefits flowing from the combined use of components (a) and (b) and (ii) none of the references disclose or suggest the specifically claimed weight ratio of (a) to (b).

In making this rejection as it relates to Claim 46-52 and 63-65, the Examiner points to composition code (D) appearing in Table 1 of Abraham as containing ferulic acid, caffeic acid, and chlorogenic acid. Further, the Examiner points to Table 2 of Abraham and asserts that the supplement identified as composition code (D) is added to coffee, composition code (C). Be that as it may, the Examiner acknowledges that Abraham fail to disclose or suggest the administration of such a composition for the treatment or prevention of hypertension.

In an attempt to compensate for this deficiency, the Examiner asserts that Hsu discloses treating hypertension using the herb Crataegus, which contains the active ingredients chlorogenic acid and caffeic acid. The Examiner further references Yokozawa et al as disclosing that caffeic acid and its derivatives are effective for treating hypertension.

Appellants submit that, *at best*, Hsu provides motivation for administering a composition containing chlorogenic acid and caffeic acid, as well as many other active ingredients, to treat hypertension. However, there is no such motivation to add ferulic acid to this composition and to expect the same result, much less to remove all the additional components recited in Abraham.

Moreover, the Examiner has not offered any evidence as to the effect of ferulic acid on hypertension. Further, Abraham only relates to the administration of the compositions appearing in Table 1 to determine their anti-genotoxic effects. At no point does the art of

record disclose the co-administration of ferulic acid *with* caffeic acid and/or chlorogenic acid (the compound or the genus) to prevent or treat hypertension or high blood pressure. Ghai et al is merely cited as disclosing processed food, or foods fortified with nutraceuticals and methods of adjusting the combination and level of these nutraceuticals. However, no reference is given in Ghai et al of ferulic acid, caffeic acid and/or chlorogenic acid.

With respect to the first difference, Appellants submit that this deficiency in the art of record is important and evidence for the same is provided in the Examples of the present application. Specifically, Appellants wish to direct the Examiner's attention to the experimental data set forth in Table 1 (page 15) of the present application, which shows the clear advantages of co-administration of ferulic acid with caffeic acid and/or chlorogenic acid. By comparing Test Plots 4-6 to Test Plots 1-3 and looking at the 1 hour point it is clear that the co-administration of ferulic acid with caffeic acid and/or chlorogenic acid is clearly greater than the additive values of the individual administration of these compounds, thus providing evidence of synergism.

The Examiner is reminded that as set forth in MPEP §716.02(a) "greater than expected results are evidence of nonobviousness." Evidence of a greater than expected result may also be shown by demonstrating an effect which is greater than the sum of each of the effects taken separately (i.e., demonstrating "synergism"). *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989).

With respect to the second difference, it is the Examiner's position that Ghai et al provides motivation to adjust the combination and level of nutraceuticals in a supplement or in food products to achieve added nutritional or therapeutic benefit. However, it should be noted that there is no specific motivation provided in Ghai et al, Hsu, Abraham or Takazawa

et al as the specific weight ration presently claimed or the effect derived therefrom. Therefore, at best, these combined disclosures would provide motivation to experiment or could be viewed as making it "obvious to try" to arrive at the present invention. However, "obvious to try" has long been held *not* to constitute obviousness. *In re O'Farrell*, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988). A general incentive does not make obvious a particular result, nor does the existence of techniques by which those efforts can be carried out. *In re Deuel*, 34 USPQ2d 1210, 1216 (Fed. Cir. 1995).

Accordingly, it is respectfully requested that this rejection be REVERSED.

(B) Claims 46 and 50 stand rejected under 35 U.S.C. §102(b) as being anticipated by Abraham. This rejection is untenable and should not be sustained.

Appellants make no statement with respect to the propriety of this ground of rejection and in no way acquiesce to the same. Nonetheless, to expedite examination of Claims 40-45, 53-55, and 69-70, Appellants canceled rejected Claims 46 and 50 in the Amendment under 37 C.F.R. §1.116, filed October 1, 2007. Since the rejected claims (Claims 46 and 50) are no longer pending, this rejection is moot.

Accordingly, it is respectfully requested that this rejection be REVERSED.

(C) Claims 40-42, 63-65, 69, and 70 stand rejected under the doctrine of obviousness type-double patenting over Claims 1-11 of U.S. Patent No. 6,310,100 (apparently in view of Yokozawa et al). This rejection is untenable and should not be sustained.

While Appellants do not agree with the double patenting rejections, the Terminal Disclaimer was filed along with the Amendment under 37 C.F.R. §1.116, filed October 1, 2007, in order to remove the rejections. *Quad Envtl. Techs. Corp. v. Union Sanitary Dist.*, 20

USPQ2d 1392 (Fed. Cir. 1991); *Amgen Inc. v. Hoechst Marion Roussel Inc.*, 57 USPQ2d 1449 (D. Mass. 2001). The Terminal Disclaimer was in compliance with 37 C.F.R. §1.321(c) and properly disclaimed the terminal part of any patent granted on the above-captioned application, which would extend beyond the expiration date of the full statutory term as presently shortened by any terminal disclaimer of U.S. Patent No. 6,310,100. Accordingly, Appellants believe that this ground of rejection is no longer at issue.

Accordingly, it is respectfully requested that this rejection be REVERSED.

(D) Claims 40-55, 63-65, 69, and 70 stand provisionally rejected under the doctrine of obviousness type-double patenting over Claims 1-6 of U.S. 11/209,672. This rejection is untenable and should not be sustained.

Appellants note that the Office's records (see the Patent Information Retrieval System) for U.S. Application No. 11/209,672 show that this application was officially abandoned on October 20, 2006. Appellants directed the Office's attention to the same on page 10 of the response filed on February 26, 2007 and again on page 6 of the Amendment under 37 C.F.R. §1.116, filed October 1, 2007. However, this indication was not acknowledged. Appellants submit that the status of U.S. 11/209,672 has not changed and it remains in abandoned status. Therefore, this rejection is untenable.

Accordingly, it is respectfully requested that this rejection be REVERSED.

VIII. CONCLUSION

For the above reasons, Claims 40-45, 53-55, and 69-70 are *not* unpatentable over Abraham in view of Hsu, Ghai et al, and Yokozawa et al. Further, all other rejections of record are moot in view of the Amendment under 37 C.F.R. §1.116, filed October 1, 2007. Therefore, the Examiner's rejections should be REVERSED.

Respectfully submitted,

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Attachments: Claims Appendix: Pending Claims in U.S. Application Serial No. 09/922,694
Evidence Appendix
Related Proceedings Appendix

CLAIMS APPENDIX

Pending Claims in U.S. Application Serial No. 09/922,694

Claims 1-39. (Canceled)

Claim 40: A composition consisting of:

(a) isolated or purified ferulic acid or an ester thereof, or a pharmaceutically acceptable salt thereof, and

(b) isolated or purified caffeic acid and/or chlorogenic acid, or pharmaceutically acceptable salts thereof, and

a suitable excipient or carrier;

wherein (a) and (b) are present in an amount sufficient to lower blood pressure or suppress a rise in blood pressure when administered to a mammal.

Claim 41: The composition of Claim 40 in the form of a tablet, granule, fine subtilae, pill, powder, capsule, troche, medicinal drink, solution for injection, suppository, or dermatological preparation.

Claim 42: The composition of Claim 40, wherein (b) consists of caffeic acid or a pharmaceutically acceptable salt thereof.

Claim 43: The composition of Claim 40, wherein (b) consists of a chlorogenic acid, or a pharmaceutically acceptable salt thereof.

Claim 44: The composition of Claim 40, wherein the chlorogenic acid is selected

from the group consisting of neochlorogenic acid, isochlorogenic acid, 3,5-dicaffeoylquinic acid, cryptochlorogenic acid and 5-caffeoylquinic acid.

Claim 45: The composition of Claim 40, wherein (b) consists of caffeic acid and a chlorogenic acid, or pharmaceutically acceptable salts thereof.

Claims 46 – 52 (Canceled):

Claim 53: A process for treating hypertension or high blood pressure comprising administering an effective dose of the composition of Claim 40 to a subject in need thereof;

wherein said hypertension is characterized by high systolic or diastolic blood pressure, or both.

Claim 54: The process of Claim 53, wherein systolic blood pressure is reduced.

Claim 55: The process of Claim 53, wherein diastolic blood pressure is reduced.

Claims 56 – 68 (Canceled):

Claim 69: The composition of Claim 40, wherein the amount of (a) ranges between 0.001 and 10g, and the amount of (b) ranges from 0.001 and 10g.

Claim 70: The composition of Claim 40, wherein the amount of (a) ranges between 0.01 and 0.5g, and the amount of (b) ranges from 0.01 and 0.5g.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.